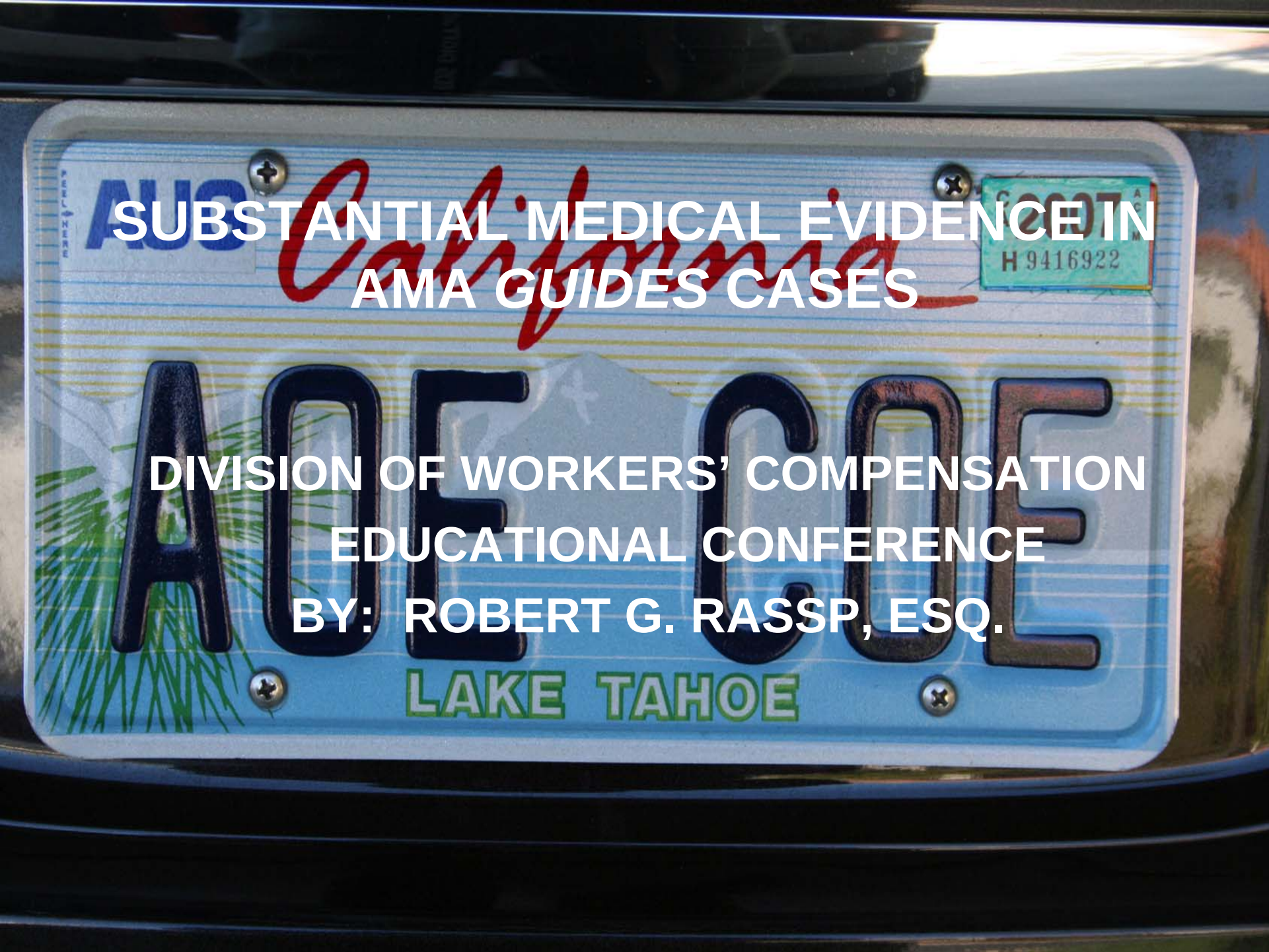


SUBSTANTIAL MEDICAL EVIDENCE IN AMA *GUIDES* CASES

DIVISION OF WORKERS' COMPENSATION EDUCATIONAL CONFERENCE

BY: ROBERT G. RASSP, ESQ.

SUBSTANTIAL EVIDENCE – SEQUENTIAL STEPS

1. **WHAT MEDICAL ISSUES ARE IN DISPUTE BETWEEN THE APPLICANT AND DEFENDANT?**
2. **WHICH MEDICAL REPORT(S) IS(ARE) EACH PARTY RELYING ON AND WHY?**
3. **ARE THE RELIED UPON REPORT(S) SUBSTANTIAL EVIDENCE?**
4. **ARE THE RELIED UPON REPORT(S) "AMA COMPLIANT?"**
5. **WHICH REPORT(S) IS(ARE) MORE CREDIBLE AND PERSUASIVE ON DISPUTED MEDICAL ISSUES?**

SUBSTANTIAL EVIDENCE – SEQUENTIAL STEPS

WHAT DOES "SUBSTANTIAL EVIDENCE" MEAN?

1. **"A MEDICAL REPORT MUST BE BASED UPON REASONABLE MEDICAL PROBABILITY." *McALLISTER vs. WCAB* (1968) 69 Cal.2d 408, 33 Cal. Comp. Cases 660.**

SUSTANTIAL EVIDENCE – SEQUENTIAL STEPS

2. A MEDICAL OPINION IS NOT SUBSTANTIAL EVIDENCE IF IT IS BASED ON:

- **FACTS NO LONGER GERMANE.**
- **AN INADEQUATE MEDICAL HISTORY.**
- **AN INADEQUATE MEDICAL EXAMINATION.**
- **INCORRECT LEGAL THEORIES**
- **SURMISE, SPECULATION, CONJECTURE OR GUESS**

HEGGLIN vs. WCAB (1971) 4 Cal.3d 162, 36 Cal. Comp. Cases 93, PLACE vs. WCAB (1970) 3 Cal.3d 372, 35 Cal. Comp. Cases 525; ZEMKE vs. WCAB (1968) 68 Cal.2d 794, 33 Cal. Comp. Cases 358.

SUBSTANTIAL EVIDENCE – SEQUENTIAL STEPS

3. **A MEDICAL REPORT IS NOT SUBSTANTIAL EVIDENCE UNLESS IT SETS FORTH THE REASONING BEHIND THE PHYSICIAN'S OPINION, NOT MERELY HIS OR HER CONCLUSIONS.** **GRANADO vs. WCAB (1968) 69 Cal.2d 399, 33 Cal. Comp. Cases 647.**

4. **A MEDICAL REPORT MUST BE BASED UPON REASONABLE MEDICAL PROBABILITY, IT MUST NOT BE SPECULATIVE, IT MUST BE BASED ON PERTINENT FACTS AND ON AN ADEQUATE EXAMINATION AND HISTORY AND IT MUST SET FORTH REASONING IN SUPPORT OF ITS CONCLUSIONS.** **MARLENE ESCOBEDO vs. MARSHALLS (2005) 70 Cal. Comp. Cases 604 at 621.**

SUBSTANTIAL EVIDENCE – SEQUENTIAL STEPS

- **SECTION E OF THE *ESCOBEDO* DECISION APPLIES TO ALL MEDICAL LEGAL ISSUES AND NOT JUST APPORTIONMENT.**
- **IN AMA GUIDES CASE, DID THE PHYSICIAN PERFORM THE CORRECT MEASUREMENTS?**
  1. **WHO PERFORMED ROM TESTING?**
  2. **WAS A COMPUTER USED?**
  3. **ACTIVE ROM OR ASSISTED OR PASSIVE ROM TESTING? (ONLY ACTIVE IS VALID).**
  4. **SHOULDER INJURY IS GOOD EXAMPLE (FLEX-EXT -50 TO 180 DEGREES NORMAL; ABDUCTION 0 TO 180 DEGREES NORMAL)**

PEOPLE vs. BASSETT

(1968) 69 Cal.2d 122, 70 Cal. Rptr. 193

“THE CHIEF VALUE OF AN EXPERT’S TESTIMONY RESTS UPON THE MATERIAL FROM WHICH HIS OR HER OPINION IS FASHIONED AND THE REASONING BY WHICH HE OR SHE PROGRESSES FROM THE MATERIAL TO THE CONCLUSION, AND IT DOES NOT LIE IN THE MERE EXPRESSION OF THE CONCLUSION; THUS THE OPINION OF AN EXPERT IS NO BETTER THAN THE REASONS UPON WHICH IT IS BASED.”

“AMA COMPLIANT” MEDICAL REPORT

- **DOES THE MEDICAL REPORT CORRECTLY FOLLOW THE DESCRIPTIONS AND MEASUREMENTS OF THE AMA *GUIDES* PURSUANT TO LABOR CODE SECTION 4660(b)(1)?**

- **DOES THE MEDICAL REPORT FOLLOW THE CALIFORNIA 2005 PERMANENT DISABILITY RATING SCHEDULE NUANCES?**

- **DOES THE MEDICAL REPORT FOLLOW DECISIONAL CASE LAW?**

REQUIRED ELEMENTS FOR AN AMA COMPLIANT MEDICAL REPORT

- **PURPOSE OF THE EXAM (TX. MD, AME, QME)**
- **HISTORY OF PRESENT ILLNESS**
- **CHIEF COMPLAINTS**
- **PRE-INJURY AND POST-INJURY ADLs (TABLE 1-2, PAGE 4 OF AMA *GUIDES)***
- **PAST MEDICAL HISTORY**
- **JOB DESCRIPTION**
- **REVIEW OF SUBMITTED MEDICAL AND LEGAL RECORDS, LIST OF ITEMS REVIEWED**
- **PHYSICAL EXAMINATION (INCLUDES WHO AND WHAT METHODS USED), FINDINGS ON EXAM**

REQUIRED ELEMENTS OF AMA COMPLIANT MEDICAL REPORT - CONTINUED

- **DIAGNOSTIC AND IMAGING STUDY RESULTS**
- **DIAGNOSIS AND IMPRESSIONS**
- **DISCUSSION AND CONCLUSIONS**
  - **CAUSATION OF THE INJURY (SPECIFIC, CT OR BOTH?)**
  - **HAS APPLICANT REACHED MMI AND IS P&S?**
  - **OBJECTIVE FINDINGS (LOSS OF ROM, NEUROLOGICAL DEFICITS (SENSORY, PAIN, MOTOR), DIAGNOSIS BASED**
  - **DISCUSSION OF NEGATIVE OR POSITIVE DIAGNOSTIC TESTS OR IMAGING STUDIES.**
  - **DESCRIPTION OF IMPAIRMENTS FOR EACH SEPARATE PART OF BODY USING SPECIFIC CHAPTERS, TABLES AND PAGE NUMBERS.**

REQUIRED ELEMENTS OF AMA COMPLIANT MEDICAL REPORT - CONTINUED

- **DISCUSSION AND CONCLUSIONS (CONTINUED)**
  - **METHOD OF EVALUATING IMPAIRMENTS (DRE, ROM, BOTH, DBE, FUNCTIONAL LOSS, ANATOMIC LOSS; COMBINING AND ADDING WHERE APPROPRIATE)**
  - **ARE PHYSICIAN'S CONCLUSIONS CONSISTENT WITH 2005 PDRS AND CASE LAW?**
  - **HOW DOES THE INJURY AFFECT THE APPLICANT'S CURRENT ADLs?**
  - **PHYSICIAN'S RATIONALE FOR USING A PARTICULAR METHOD OF DESCRIPTIONS AND MEASUREMENTS**
  - **CAUSATION OF PERMANENT IMPAIRMENTS – HOW AND WHY IMPAIRMENTS ARE CAUSED BY THE INDUSTRIAL INJURY AND/OR "OTHER FACTORS" (APPORTIONMENT)**

REQUIRED ELEMENTS OF AN AMA COMPLAINT MEDICAL REPORT (CONTINUED)

- **DISCUSSION AND CONCLUSIONS (CONTINUED)**
  - **RECOMMENDATIONS FOR FURTHER MEDICAL TREATMENT**
  - **CAN APPLICANT PERFORM HIS/HER USUAL AND CUSTOMARY DUTIES?**
  - **WHAT ARE THE APPLICANT'S RESIDUAL FUNCTIONAL CAPACITIES (LISTED IN PR-4 FORM) AND WORK RESTRICTIONS?**

REF: LABOR CODE SECTION 4628, 8 CAL. CODE REGS. SECTION 10606, AMA *GUIDES*, SECTION 2.6.

WHAT TO LOOK FOR IN A MEDICAL REPORT

- **IS THERE LOSS OF ROM, SENSORY/PAIN DEFICITS OR MOTOR IMPAIRMENTS?**
- **ARE APPLICANT'S COMPLAINTS CREDIBLE AND CORROBORATED BY CONCORDANT RESULTS OF DIAGNOSTIC TESTING?**
- **DOES APPLICANT HAVE RADICULAR SYMPTOMS?**
- **SHOULD THE MD HAVE ORDERED DX TESTS?**
- **DID PHYSICIAN FAIL TO DESCRIBE RADICULAR SYMPTOMS? E.G. DRE II vs. DRE III.**
- **SHOULD THE PHYSICIAN HAVE REFERRED THE APPLICANT TO ANOTHER SPECIALIST?**
- **LOOK AT THE BIG PICTURE AND USE YOUR INTUITION.**

EXAMPLE #1

APPLICANT IS A 63 YEAR OLD FEMALE LIBRARIAN SLIPPED AND FELL AND LANDED ON HER LEFT MAJOR WRIST CAUSING A CLOSED LEFT DISTAL RADIUS FRACTURE.

THE FRACTURE WAS REDUCED BY A CAST AND REMOVED AFTER SIX WEEKS WITH EXTENSIVE PHYSICAL THERAPY.

SHE WAS ALSO DIAGNOSED WITH SEVERE POST TRAUMATIC LEFT CARPAL TUNNEL SYNDROME WITH EMG/NCV SHOWING SEVERE COMPRESSION OF THE LEFT MEDIAN NERVE.

EXAMPLE #1

IN HIS P&S, MMI REPORT, THE TREATING MD SAYS:

“IN THE PATIENT’S OWN WORDS, THE FOLLOWING WAS DESCRIBED ‘I’M DOING WELL AND REALLY HAVE NO PROBLEMS AND THE PROBLEMS I DO HAVE, I AM LEARNING TO LIVE WITH.’”

THE PHYSICIAN MEASURES THE LEFT WRIST ROM AS FOLLOWS: “EXTENSION 45 DEGREES, FLEXION 60 DEGREES, RADIAL DEVIATION 15 DEGREES AND ULNAR DEVIATION 25 DEGREES.” (NORMAL IS FLEX. 60; EXT. 60; RADIAL DEV. 20; ULNAR DEV. 30 DEGREES)

EXAMPLE #1

THE PHYSICIAN CORRECTLY USED THE UPPER EXTREMITY RATING CHART SUMMARY FIGURES 16-1a AND 16-1b.

HE CORRECTLY USED FIGURE 16-26 FLEXION AND EXTENSION OF THE WRIST; FIGURE 16-28 PIE CHART FOR THE RATING; FIGURE 16-29 FOR RADIAL AND ULNAR DEVIATION AND FIGURE 16-31 PIE CHART FOR THE RATING.

THE LOSS OF MOTION OF THE WRIST IS A 5% UPPER EXTREMITY RATING THAT RATES 3% WPI.

A STIPULATION FOR 3% WAS SUBMITTED TO THE WCJ FOR APPROVAL.

Figure 16-1a Upper Extremity Impairment Evaluation Record—**Part 1 (Hand)** Side ☐R ☐L

Name_____ Age_____ Sex ☐M ☐F Dominant hand ☐R ☐L Date_____

Occupation_____ Diagnosis_____

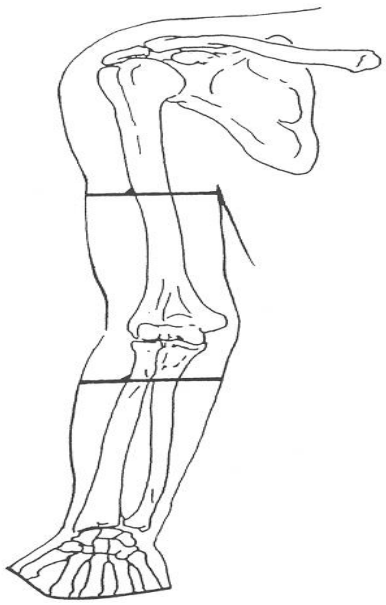
			Abnormal Motion Record motion or ankylosis angles and digit impairment %				Amputation Mark level & impairment %	Sensory Loss Mark type, level, & impairment %	Other Disorders List type & impairment %	Hand Impairment% •Combine digit imp % *Convert to hand imp %
			Flexion	Extension	Ankylosis	Imp %				
Thumb	IP	Angle°								
		Imp %								
	MP	Angle°								
		Imp %								
				Motion	Ankylosis	Imp %				
	CMC	Radial abduction Angle°								Abnormal motion [1]
		Radial abduction Imp %								Amputation [2]
		Adduction Cm								Sensory loss [3]
		Adduction Imp %								Other disorders [4]
		Opposition Cm								Total digit imp % •Combine 1, 2, 3, 4
		Opposition Imp %					‡UE IMP % = [5]			
		Add digit impairment % CMC + MP + IP =				[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % *Convert above
			Flexion	Extension	Ankylosis	Imp %				
Index	DIP	Angle°								Abnormal motion [1]
		Imp %								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		Imp %								Other disorders [4]
	MP	Angle°								Total digit imp % •Combine 1, 2, 3, 4
		Imp %								
		•Combine digit impairment % MP, PIP, DIP =				[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % *Convert above
Middle	DIP	Angle°								Abnormal motion [1]
		Imp %								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		Imp %								Other disorders [4]
	MP	Angle°								Total digit imp % •Combine 1, 2, 3, 4
		Imp %								
		•Combine digit impairment % MP, PIP, DIP =				[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % *Convert above
Ring	DIP	Angle°								Abnormal motion [1]
		Imp %								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		Imp %								Other disorders [4]
	MP	Angle°								Total digit imp % •Combine 1, 2, 3, 4
		Imp %								
		•Combine digit impairment % MP, PIP, DIP =				[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % *Convert above
Little	DIP	Angle°								Abnormal motion [1]
		Imp %								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		Imp %								Other disorders [4]
	MP	Angle°								Total digit imp % •Combine 1, 2, 3, 4
		Imp %								
		•Combine digit impairment % MP, PIP, DIP =				[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % *Convert above

Total hand impairment: Add hand impairment % for thumb + index + middle + ring + little finger =	%
Convert total hand impairment to upper extremity impairment† (if thumb metacarpal intact, enter on Part 2, line II) =	%
‡Add thumb ray upper extremity amputation imp [5] ____% + hand upper extremity imp ____% =	%
If hand region impairment is only impairment, convert upper extremity impairment to whole person impairment§ =	%

Figure 16-1b Upper Extremity Impairment Evaluation Record—**Part 2 (Wrist, elbow, and shoulder)** Side ☐R ☐L

Name _____ Age _____ Sex ☐M ☐F Dominant hand ☐R ☐L Date _____

Occupation _____ Diagnosis _____

Abnormal Motion Record motion or ankylosis angles and impairment %						Other Disorders List type & impairment %	Regional Impairment % •Combine [1] + [2]	Amputation Mark level & impairment %
Wrist		Flexion	Extension	Ankylosis	Imp %			
	Angle°							
	Imp %							
		RD	UD	Ankylosis	Imp %			
	Angle°							
	Imp %							
	Add Imp % Flex/Ext + RD/UD =				[1]	Imp % =	[2]	
Elbow		Flexion	Extension	Ankylosis	Imp %			
	Angle°							
	Imp %							
		Pronation	Supination	Ankylosis	Imp %			
	Angle°							
	Imp %							
	Add Imp % Flex/Ext + Pro/Sup =				[1]	Imp % =	[2]	
Shoulder		Flexion	Extension	Ankylosis	Imp %			
	Angle°							
	Imp %							
		Adduction	Abduction	Ankylosis	Imp %			
	Angle°							
	Imp %							
		Int Rot	Ext Rot	Ankylosis	Imp %			
	Angle°							
	Imp %							
	Add Imp % Flex/Ext + Add/Abd + Int Rot/Ext Rot =				[1]	Imp % =	[2]	Imp % =

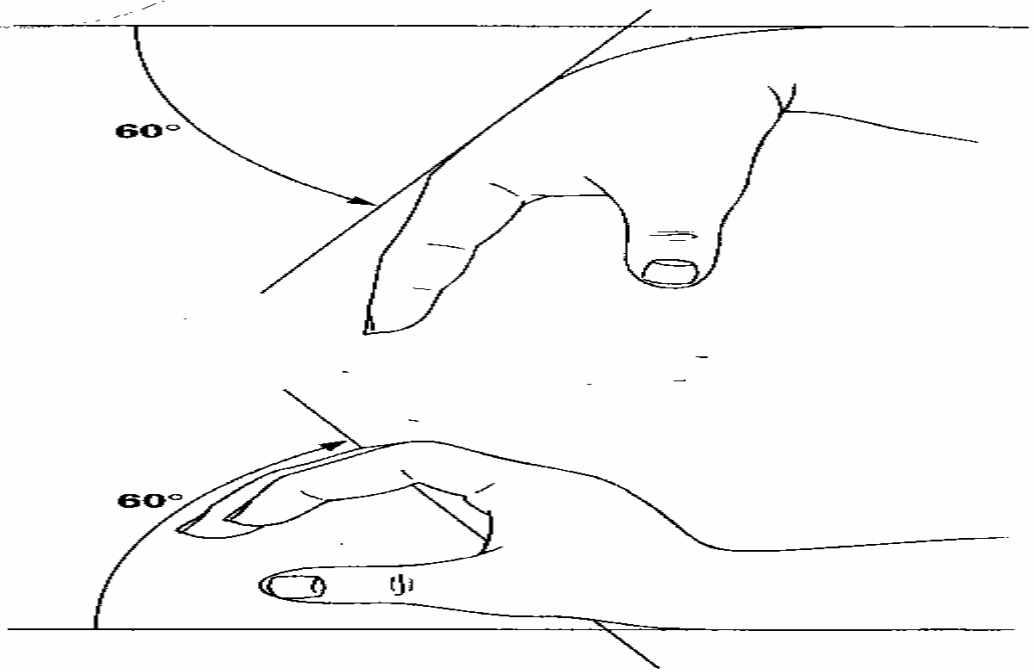
I. Amputation impairment (other than digits)	=	%
II. Regional impairment of upper extremity **•(Combine hand _____ % + wrist _____ % + elbow _____ % + shoulder _____ %)**	=	%
III. Peripheral nerve system impairment	=	%
IV. Peripheral vascular system impairment	=	%
V. Other disorders (not included in regional impairment)	=	%

Total upper extremity impairment (•Combine I, II, III, IV, and V)	=	%
Impairment of the whole person (Use Table 16-3)	=	%

• Combined Values Chart (p. 604).

If both limbs are involved, calculate the whole person impairment for each on a separate chart and *combine* the percents (Combined Values Chart).

Figure 16-26 Wrist Flexion (above) and Extension (below)



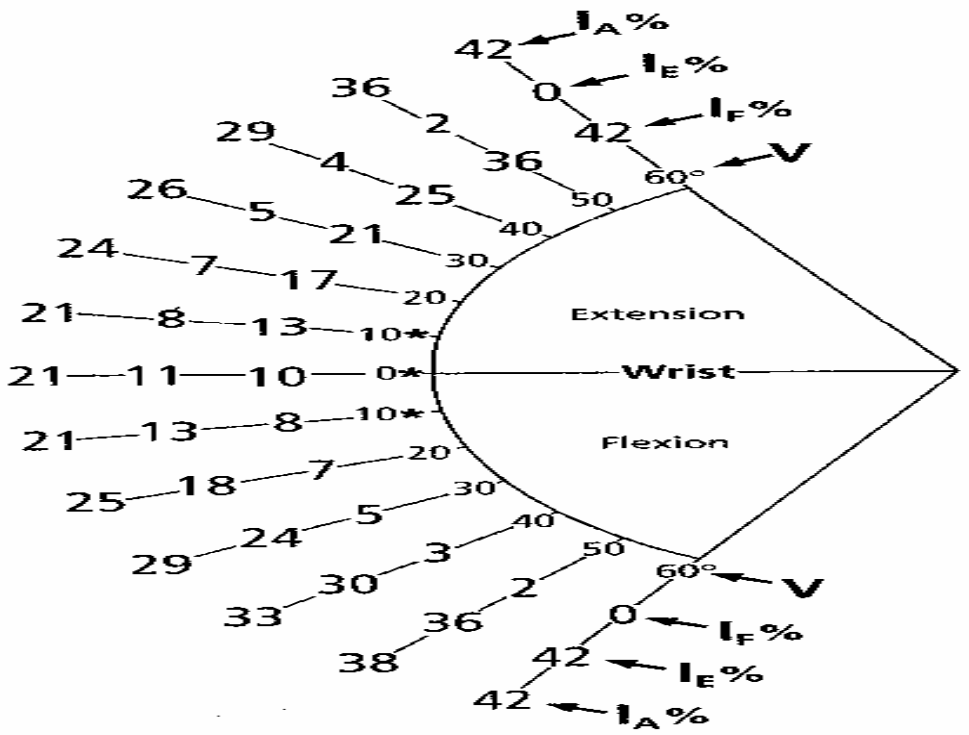
Redrawn with permission from Swanson AB, Hagert CG, de Groot Swanson G. Evaluation of impairment of hand function. In: Hunter JM, Schneider LH, Mackin E, Calahan A, eds. *Rehabilitation in the Hand.* St Louis, Mo: CV Mosby Co; 1978:31–69.

The upper extremity impairment due to abnormal wrist motion is calculated from the pie charts by *adding* directly together the upper extremity impairment contributed by each motion unit.

The actual range-of-motion measurements are recorded and applied to the various impairment pie charts. *Impairment values for motion measurements falling between those shown in the pie chart may be adjusted or interpolated proportionally in the corresponding interval.*

Figure 16-28 Pie Chart of Upper Extremity Motion Impairments Due to Lack of Flexion and Extension of Wrist Joint

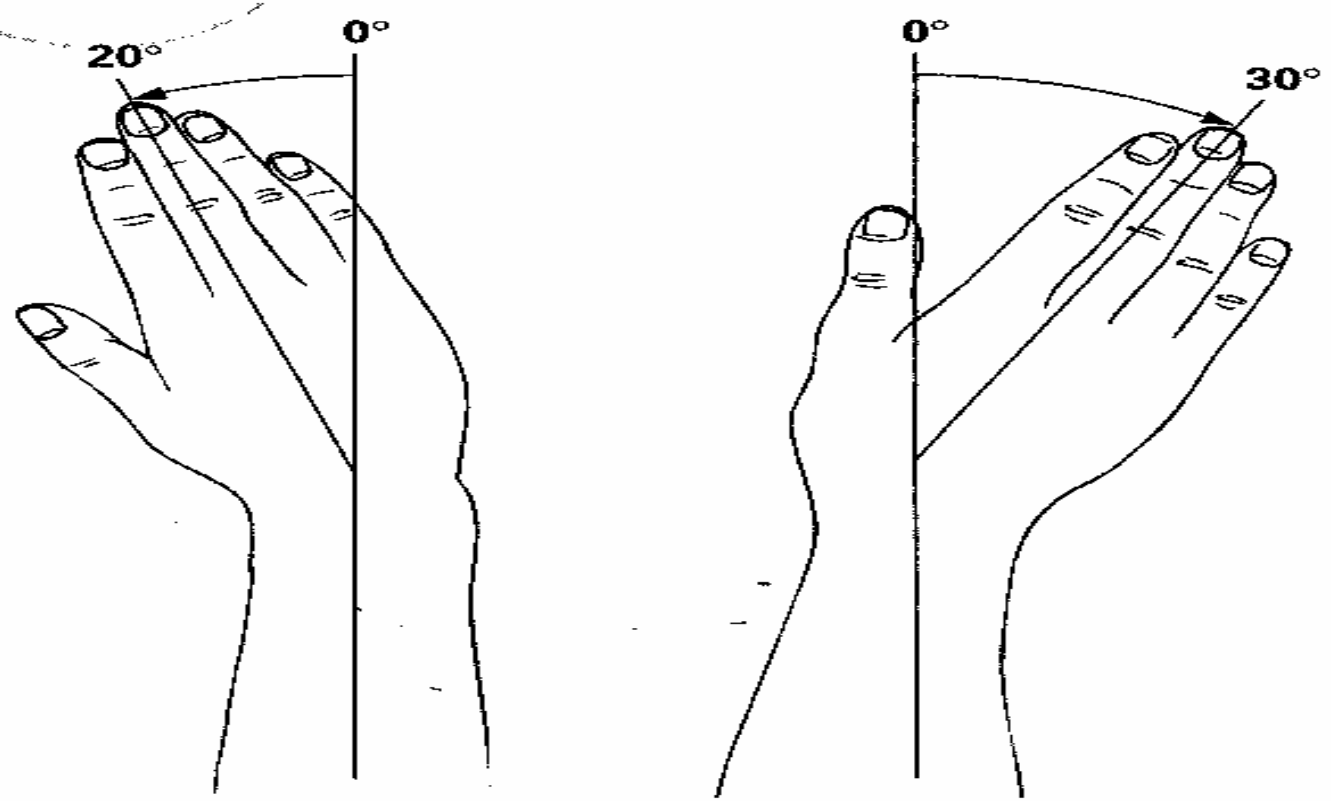
Relative value of this functional unit to upper extremity impairment is 42%.



I_A% = Impairment due to ankylosis
I_E% = Impairment due to loss of extension
I_F% = Impairment due to loss of flexion
V = Measured angles of motion
* = Positions of function

Redrawn with permission from Swanson AB, Hagert CG, de Groot Swanson G. Evaluation of impairment of hand function. In: Hunter JM, Schneider LH, Mackin E, Calahan A, eds. *Rehabilitation in the Hand.* St Louis, Mo: CV Mosby Co; 1978:31-69.

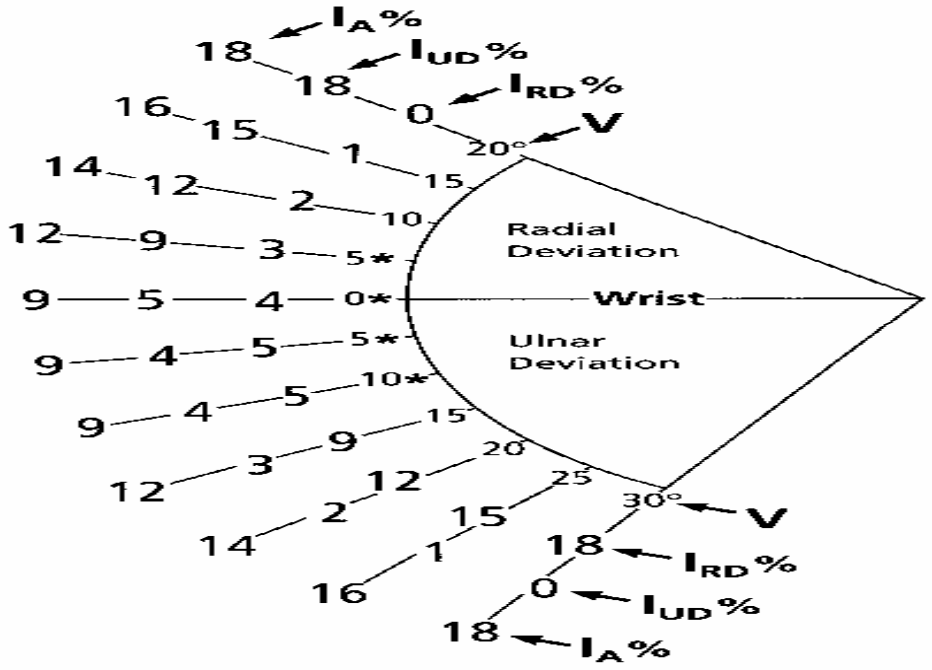
Figure 16-29 Radial Deviation (left) and Ulnar Deviation (right) of Right Wrist



Redrawn with permission from Swanson AB, Hagert CG, de Groot Swanson G. Evaluation of impairment of hand function. In: Hunter JM, Schneider LH, Mackin E, Calahan A, eds. *Rehabilitation in the Hand.* St Louis, Mo: CV Mosby Co; 1978:31-69.

Figure 16-31 Pie Chart of Upper Extremity Motion Impairments Due to Abnormal Radial and Ulnar Deviations of Wrist Joint

Relative value of this functional unit to upper extremity impairment is 18%.



I_A% = Impairment due to ankylosis
I_{RD}% = Impairment due to loss of radial deviation
I_{UD}% = Impairment due to loss of ulnar deviation
V = Measured angles of motion
* = Positions of function

Redrawn with permission from Swanson AB, Hagert CG, de Groot Swanson G. Evaluation of impairment of hand function. In: Hunter JM, Schneider LH, Mackin E, Calahan A, eds. *Rehabilitation in the Hand.* St Louis, Mo: CV Mosby Co; 1978:31-69.

EXAMPLE #1

- **THE WCJ EXPRESSED THAT "SOMETHING IS WRONG" WITH THE 3% PROPOSED STIPULATED AWARD.**
- **THE MEDICAL REPORT IS NOT SUBSTANTIAL EVIDENCE**
  - **THE PHYSICIAN FAILED TO INCLUDE A COPY OF THE EMG/NCV**
  - **THE PHYSICIAN FAILED TO GRADE THE CARPAL TUNNEL SYNDROME FOR SENSORY AND MOTOR FUNCTION IMPAIRMENT TAKING INTO ACCOUNT THE POSITIVE EMG/NCV STUDY AND WHAT DID APPLICANT MEAN BY SAYING "I HAVE LEARNED TO LIVE WITH IT?"**

EXAMPLE #1

- **THE MEDICAL REPORT IS NOT SUBSTANTIAL EVIDENCE…**
  - **THE PHYSICIAN SHOULD HAVE USED TABLES 16-10, 16-11 AND 16-15 TO DETERMINE UPPER EXTREMITY RATING FOR THE SENSORY AND MOTOR IMPAIRMENTS FROM THE POST-TRAUMATIC CARPAL TUNNEL SYNDROME.**
  - **THE PHYSICIAN FAILED TO STATE HOW THE APPLICANT'S LEFT WRIST CONDITION IS AFFECTING HER ADLs.**

Table 16-10 Determining Impairment of the Upper Extremity Due to Sensory Deficits or Pain Resulting From Peripheral Nerve Disorders

a. Classification

Grade	Description of Sensory Deficit or Pain	% Sensory Deficit
5	No loss of sensibility, abnormal sensation, or pain	0
4	Distorted superficial tactile sensibility (diminished light touch), with or without minimal abnormal sensations or pain, that is forgotten during activity	1–25
3	Distorted superficial tactile sensibility (diminished light touch and two-point discrimination), with some abnormal sensations or slight pain, that interferes with some activities	26–60
2	Decreased superficial cutaneous pain and tactile sensibility (decreased protective sensibility), with abnormal sensations or moderate pain, that may prevent some activities	61–80
1	Deep cutaneous pain sensibility present; absent superficial pain and tactile sensibility (absent protective sensibility), with abnormal sensations or severe pain, that prevents most activity	81–99
0	Absent sensibility, abnormal sensations, or severe pain that prevents all activity	100

b. Procedure

1	Identify the area of involvement using the cutaneous innervation chart (Figure 16–48) or the dermatome chart (Figure 16–49).
2	Identify the nerve structure(s) that innervate the area(s) (Table 16–12 and Figures 16–48, 16–49, and 16–50).
3	Grade the severity of the sensory deficit or pain according to the classification given above (a). Use clinical judgment to select the appropriate percentage from the range of values shown for each severity grade.
4	Find the maximum upper extremity impairment value due to sensory deficit or pain for each nerve structure involved: spinal nerves (Table 16–13), brachial plexus (Table 16–14), and major peripheral nerves (Table 16–15).
5	*Multiply* the severity of the sensory deficit by the maximum upper extremity impairment value to obtain the upper extremity impairment for each nerve structure involved.

Adapted from Kline DG, Hudson AR. *Operative Results for Major Nerve Injuries, Entrapments, and Tumors*. Philadelphia, Pa: WB Saunders Co; 1995:89; Moberg E. Sensibility in reconstructive limb surgery. In: Fredericks S, Brody GS, eds. *Symposium on the Neurologic Aspects of Plastic Surgery*. St Louis, Mo: CV Mosby Co; 1978:30-35. Omer GE Jr, Bell–Krotoski J. Evaluation of clinical results following peripheral nerve suture. In: Omer GE Jr, Spinner M, Van Beek AL, eds. *Management of Peripheral Nerve Problems*. 2nd ed. Philadelphia, Pa: WB Saunders Co; 1998:340-349; Seddon HJ. *Surgical Disorders of the Peripheral Nerves*. 2nd ed. Edinburgh, Scotland: Churchill Livingstone; 1975; Swanson AB. Evaluation of impairment of function in the hand. *Surg Clin North Am*. 1964;44:925-940; Swanson AB, de Groot Swanson G. Evaluation of permanent impairment in the hand and upper extremity. In: Doege TC, ed. *Guides to the Evaluation of Permanent Impairment*. Fourth ed. Chicago, Ill: American Medical Association; 1993.

Table 16-11 Determining Impairment of the Upper Extremity Due to Motor and Loss-of-Power Deficits Resulting From Peripheral Nerve Disorders Based on Individual Muscle Rating

a. Classification

Grade	Description of Muscle Function	% Motor Deficit
5	Complete active range of motion against gravity with full resistance	0
4	Complete active range of motion against gravity with some resistance	1- 25
3	Complete active range of motion against gravity only, without resistance	26- 50
2	Complete active range of motion with gravity eliminated	51- 75
1	Evidence of slight contractility; no joint movement	76- 99
0	No evidence of contractility	100

b. Procedure

1	Identify the motion involved, such as flexion, extension, etc.
2	Identify the muscle(s) performing the motion and the motor nerve(s) involved.
3	Grade the severity of motor deficit of individual muscles according to the classification given above.
4	Find the maximum impairment of the upper extremity due to motor deficit for each nerve structure involved: spinal nerves (Table 16-13), brachial plexus (Table 16-14), and major peripheral nerves (Table 16-15).
5	Multiply the severity of the motor deficit by the maximum impairment value to obtain the upper extremity impairment for each structure involved.

Adapted from Lovett RW. From Omer GE Jr, Bell-Krotoski J. Evaluation of clinical results following peripheral nerve suture. In: Omer GE Jr, Spinner M, Van Beek AL, eds. *Management of Peripheral Nerve Problems*. 2nd ed. Philadelphia, Pa: WB Saunders Co; 1998:341; Seddon HJ. *Surgical Disorders of the Peripheral Nerves*. 2nd ed. Edinburgh, Scotland: Churchill Livingstone; 1975; Swanson AB, de Groot Swanson G. Evaluation of permanent impairment in the hand and upper extremity. In: Doege TC, ed. *Guides to the Evaluation of Permanent Impairment*. Fourth ed. Chicago, Ill: American Medical Association; 1993.

necessary in order to confirm the diagnosis. Note that grade 4 covers a wide range of weakness, from minimal detectable weakness to severe weakness in which the muscles are functional through a full range with only very slight resistance. The degree of weakness should be rated from 1% to 25% depending on the degree within this grade.

Loss of strength relating to conditions not resulting from peripheral nerve disorders is discussed in Section 16.8. *The evaluator should not apply impairment values from both sections to the same condition.*

Table 16-15 Maximum Upper Extremity Impairment Due to Unilateral Sensory or Motor Deficits or to *Combined* 100% Deficits of the Major Peripheral Nerves

	Maximum % Upper Extremity Impairment Due to:		
Nerve	**Sensory Deficit or Pain ***	**Motor Deficit†**	***Combined* Motor and Sensory Deficits**
Pectorals (medial and lateral)	0	5	5
Axillary	5	35	38
Dorsal scapular	0	5	5
Long thoracic	0	15	15
Medial antebrachial cutaneous	5	0	5
Medial brachial cutaneous	5	0	5
Median (above midforearm)	39	44	66
Median (anterior interosseous branch)	0	15	15
Median (below midforearm)	39	10	45
Radial palmar digital of thumb	7	0	7
Ulnar palmar digital of thumb	11	0	11
Radial palmar digital of index finger	5	0	5
Ulnar palmar digital of index finger	4	0	4
Radial palmar digital of middle finger	5	0	5
Ulnar palmar digital of middle finger	4	0	4
Radial palmar digital of ring finger	3	0	3
Musculocutaneous	5	25	29
Radial (upper arm with loss of triceps)	5	42	45
Radial (elbow with sparing of triceps)	5	35	38
Subscapulars (upper and lower)	0	5	5
Suprascapular	5	16	20
Thoracodorsal	0	10	10
Ulnar (above midforearm)	7	46	50
Ulnar (below midforearm)	7	35	40
Ulnar palmar digital of ring finger	2	0	2
Radial palmar digital of little finger	2	0	2
Ulnar palmar digital of little finger	3	0	3

* See Table 16-10a to grade sensory deficits or pain.

† See Table 16-11a to grade motor deficits.

* From Swanson AB, de Groot Swanson G. Evaluation of permanent impairment in the hand and upper extremity. In: Doege TC, ed. *Guides to the Evaluation of Permanent Impairment.*

EXAMPLE #1

- **USUALLY, THERE IS A 25% SENSORY/PAIN AND A 25% MOTOR FUNCTION LOSS FROM CARPAL TUNNEL SYNDROME WITH POSITIVE NCV. THE SENSORY LOSS MAY BE MORE THAN 25% DEPENDING ON THE CLINICAL FINDINGS.**
- **SENSORY IMP. = 25% OF 39% MAX VALUE OF MEDIAN NERVE = 10% UE IMPAIRMENT**
- **MOTOR IMP. = 25% OF 10% MAX VALUE OF MEDIAN NERVE = 3% UE IMPAIRMENT.**
- **10% UE IMP. FOR SENSORY COMBINED WITH 3% UE IMP. FOR MOTOR = 13% UE IMPAIRMENT WHICH EQUALS 8% WPI. (.60 TIMES 13% EQUALS 8%)**

EXAMPLE #1

- **AT A BARE MINIMUM, THE 3% WPI FOR WRIST LOSS OF MOTION SHOULD HAVE BEEN INCLUDED WITH AN ADDITIONAL 8% WPI FOR THE LEFT POST TRAUMATIC CARPAL TUNNEL SYNDOME.**
- **THE PARTIES FAILED TO ADJUST THE 3% WPI (BASED ONLY ON LOSS OF WRIST MOTION) RATING FOR FEC, AGE AND OCCUPATION BEFORE SUBMITTING THE PROPOSED STIPULATION.**
- **WCJ REJECTED THE STIPULATION AND ORDERED THE PARTIES TO APPEAR AT AN ADEQUACY HEARING.**

EXAMPLE #1

- **SINCE THE REPORT IS NOT SUBSTANTIAL EVIDENCE, THE WCJ MAY:**
  - **AUGMENT THE RECORD BY REQUESTING THE PHYSICIAN TO SUBMIT THE EMG/NCV REPORT AND WRITE A SUPPLEMENTAL REPORT COMPLYING WITH TABLES 16-10, 16-11 AND 16-15 IN COMPLIANCE WITH MCDUFFIE vs. L.A. CO. MTA, (2002) 67 Cal. Comp. Cases 138; OR**
  - **REJECT THE REPORT AND ORDER A PANEL QME LIST PURSUANT TO LABOR CODE SECTION 4062.1; OR**
  - **REFER THE MATTER TO A KNOWN AME QUALITY UPPER EXTREMITY PHYSICIAN PURSUANT TO LABOR CODE SECTION 5701.**

EXAMPLE #2

APPLICANT, A 58 YEAR OLD JANITOR AT A HOSPITAL, SLIPPED ON PLASTIC WRAP AND SUSTAINED A 5 mm DISPLACED FRACTURE OF HIS LEFT PATELLA. AFTER OPEN REDUCTION AND INTERNAL FIXATION (TWO PINS) WITH POST-SURGICAL PHYSICAL THERAPY, THE APPLICANT WAS DECLARED P&S AND MMI.

THE TREATING PHYSICIAN MADE THE FOLLOWING FINDINGS:

-THE PATELLA FRACTURE WAS REDUCED TO ITS ANATOMICAL POSITION.

EXAMPLE #2

THE PHYSICIAN MADE THE FOLLOWING FINDINGS:

- **THE THIGH CIRCUMFERENCE IS 41cm ON THE INJURED LEFT, 44cm ON THE RIGHT;**
- **THE CALF CIRCUMFERENCE IS 31cm ON THE INJURED LEFT, 32cm ON THE RIGHT.**
- **THEREFORE, THERE IS A 3cm ATROPHY ON THE THIGH AND A 1cm ATROPHY ON THE CALF.**
- **FLEXION AND EXTENSION OF THE LEFT KNEE IS NORMAL AT 0-135 DEGREES (ANYTHING OVER 110 DEGREES IS NORMAL).**
- **THERE IS A “MINIMAL LOSS OF FLEXION”**

EXAMPLE #2

THE PHYSICIAN MADE THE FOLLOWING FINDINGS:

- **THERE IS A MINIMAL LOSS OF STRENGTH.**
- **THE PATIENT HAS OCCASIONAL PAIN WITH EXTREMES OF STANDING.**
- **“ACCORDING TO THE AMA GUIDES AND UTILIZING THE ANTICIPATED IMPAIRMENT, UTILIZING TABLE 17-33, THE PATIENT’S IMPAIRMENT IS CURRENTLY COMMENSURATE WITH A NON-DISPLACED PATELLA FRACTURE, HEALED. ACCORDINGLY, HIS LOWER EXTREMITY IMPAIRMENT IS 7%, WPI IS 3%.”**

EXAMPLE #2

THE PHYSICIAN MADE THE FOLLOWING FINDINGS:

- **“ACCORDINGLY, BASED ON HIS MILD SUBJECTIVE COMPLAINTS AND HIS CURRENT OBJECTIVE FINDINGS, I BELIEVE THIS IS A FAIR REPRESENTATION OF HIS CURRENT IMPAIRMENT. GIVEN THE FACT THAT THE PATIENT DID HAVE A PATELLA FRACTURE HE IS AT RISK FOR PATELLA PROBLEMS IN THE FUTURE INCLUDING PATELLOFEMORAL SYNDROME AND PATELLA ARTHRITIS.”**

EXAMPLE #2

THE MEDICAL REPORT IS AMA COMPLIANT AND MAY BE SUBSTANTIAL EVIDENCE:

- **USE TABLE 17-2 TO SEE WHICH OF THE 13 WAYS A LOWER EXTREMITY CASE CAN BE RATED.**
- **THE THIGH ATROPHY IS 3cm WHICH IS A 5% WPI ALONG WITH THE CALF ATROPHY WHICH IS A 1% WPI BASED ON TABLE 17-6, WHICH COMBINES TO A 6% WPI. AFTER ADJUSTMENT FOR FEC, OCCUPATION AND AGE, THE APPLICANT WOULD HAVE A 10% PERMANENT DISABILITY.**

EXAMPLE #2

- **THE PHYSICIAN DID NOT RATE FOR MUSCLE WEAKNESS (WHICH IS A COMMON PROBLEM AFTER A FRACTURE) USING TABLES 17-7 AND 17-8 WHICH AN APPLICANT'S ATTORNEY WOULD ARGUE IS A 10% WPI WITH A GRADE 4 MUSCLE STRENGTH LOSS WITH KNEE FLEXION AND EXTENSION FROM THIS INJURY. THIS WOULD RATE 15% PD AFTER ADJUSTMENT FOR FEC, OCCUPATION AND AGE.**
- **THIS PHYSICIAN FELT THAT THE DBE METHOD FROM TABLE 17-33 BEST FIT THIS CASE WITH A 7% LOWER EXTREMITY RATING THAT BECOMES A 3% WPI. IT WOULD RATE 5% PD AFTER ADJUSTMENT.**

EXAMPLE #2

- **SO THERE IS A 10% PD RATING IF THE ATROPHY METHOD IS USED, A 15% PD RATING IF MUSCLE STRENGTH LOSS IS USED AND A 5% PD RATING IF THE DBE METHOD IS USED.**
- **DBE CANNOT BE COMBINED WITH ATROPHY OR MUSCLE STRENGTH LOSS**
- **ATROPHY AND MUSCLE STRENGTH CANNOT BE COMBINED WITH EACH OTHER OR WITH DBE**
- **THIS PHYSICIAN FELT THAT THE DBE METHOD WAS THE “FAIREST” AND CAME UP WITH THE 3% WPI RATING.**

Table 17-1 Methods Used to Evaluate Impairments of the Lower Extremities

Assessment Type	Method	Section Number
Anatomic (1-9)	1. Limb length discrepancy	17.2b
	2. Muscle atrophy	17.2c
	3. Ankylosis	17.2g
	4. Amputation	17.2i
	5. Arthritis of joints	17.2h
	6. Skin loss	17.2k
	7. Peripheral nerve injury	17.2l
	8. Vascular	17.2m
	9. Causalgia/reflex sympathetic dystrophy (CRPS)	17.2n
Functional (10-12)	10. Range of motion	17.2f
	11. Gait derangement	17.2c
	12. Muscle strength (manual muscle testing)	17.2e
Diagnosis based (13)	Fractures	17.2j
	Ligament injuries	17.2j
	Meniscectomies	17.2j
	Foot deformities	17.2j
	Hip and pelvic bursitis	17.2j
	Lower extremity joint replacements	17.2j

Table 17-2 Guide to the Appropriate Combination of Evaluation Methods

Open boxes indicate impairment ratings derived from these methods can be combined.

	Limb Length Discrepancy	Gait Derangement	Muscle Atrophy	Muscle Strength	ROM Ankylosis	Arthritis (DJD)	Amputation	Diagnosis-Based Estimates (DBE)	Skin Loss	Peripheral Nerve Injury	Complex Regional Pain Syndrome (CRPS)
Limb Length Discrepancy		X					X				
Gait Derangement	X		X	X	X	X	X	X	X	X	X
Muscle Atrophy		X		X	X	X	X	X		X	X
Muscle Strength		X	X		X	X		X		X	0
ROM Ankylosis		X	X	X		X		X			0
Arthritis (DJD)		X	X	X	X						
Amputation	X	X	X	X							
Diagnosis-Based Estimates (DBE)		X	X	X	X						
Skin Loss		X									
Peripheral Nerve Injury		X	X	X							X
Complex Regional Pain Syndrome (CRPS)		X	X	0	0					X	
Vascular		X									X

Table 17-33 Impairment Estimates for Certain Lower Extremity Impairments

Region and Condition	Whole Person (Lower Extremity) [Foot] Impairment (%)
Pelvis*	
Pelvic fracture	
Undisplaced, nonarticular, healed, without neurologic deficit or other sign	0
Displaced nonarticular fracture: estimate by evaluating shortening and weakness	—
Acetabular fracture: estimate according to range of motion and joint changes	—
Sacroiliac joint fracture: consider displacement	1-3 (2-7)
Ischial bursitis (weaver's bottom) requiring frequent unweighting and limiting of sitting time	3 (7)
Hip	
Total hip replacement; includes endoprosthesis, unipolar or bipolar	
Good results, 85-100 points†	15 (37)
Fair results, 50-84 points†	20 (50)
Poor results, less than 50 points†	30 (75)
Femoral neck fracture, healed in	
Good position	Evaluate according to examination findings
Malunion	12 (30) plus range-of-motion criteria
Nonunion	15 (37) plus range-of-motion criteria
Girdlestone arthroplasty Or estimate according to examination findings; use the greater estimate	20 (50)
Trochanteric bursitis (chronic) with abnormal gait	3 (7)
Femoral shaft fracture	
Healed with 10°-14° angulation or malrotation	10 (25)
15°-19°	18 (45)
20°	+1 (2) per degree up to 25 (62)

Region and Condition	Whole Person (Lower Extremity) [Foot] Impairment (%)
Knee	
Patellar subluxation or dislocation with residual instability	3 (7)
Patellar fracture	
Undisplaced, healed	3 (7)
Articular surface displaced more than 3 mm	5 (12)
Displaced with nonunion	7 (17)
Patellectomy	
Partial	3 (7)
Total	9 (22)
Meniscectomy, medial *or* lateral	
Partial	1 (2)
Total	3 (7)
Meniscectomy, medial *and* lateral	
Partial	4 (10)
Total	9 (22)
Cruciate *or* collateral ligament laxity	
Mild	3 (7)
Moderate	7 (17)
Severe	10 (25)
Cruciate *and* collateral ligament laxity	
Moderate	10 (25)
Severe	15 (37)
Plateau fracture	
Undisplaced	2 (5)
Displaced	
5°-9° angulation	5 (12)
10°-19° angulation	10 (25)
20°+ angulation	+1 (2) per degree up to 20
Supracondylar or intercondylar fracture	
Undisplaced fracture ‡	2 (5)
Displaced fracture	
5°-9° angulation	5 (12)
10°-19° angulation	10 (25)
20°+ angulation	+1 (2) per degree up to 20

* Refer also to Section 15.14 on the pelvis.

† See Table 17-34 or Table 17-35 for point rating system.

‡ A stress x-ray is an anterior-posterior view taken with a varus or valgus stress applied by a knowledgeable physician.

§ The tibia–os calcis angle is measured as shown in Figure 17-7.

Table 17-6 Impairment Due to Unilateral Leg Muscle Atrophy

Difference in Circumference (cm)	Impairment Degree	Whole Person (Lower Extremity) Impairment (%)
a. Thigh: The circumference is measured 10 cm above the patella with the knee fully extended and the muscles relaxed.		
0-0.9	None	0
1-1.9	Mild	1-2 (3-8)
2-2.9	Moderate	3-4 (8-13)
3+	Severe	5 (13)
b. Calf: The maximum circumference on the normal side is compared with the circumference at the same level on the affected side.		
0-0.9	None	0
1-1.9	Mild	1-2 (3-8)
2-2.9	Moderate	3-4 (8-13)
3+	Severe	5 (13)

Table 17-8 Impairment Due to Lower Extremity Muscle Weakness

Muscle Group		Whole Person (Lower Extremity) [Foot] Impairment (%)														
		Grade 0			Grade 1			Grade 2			Grade 3			Grade 4		
Hip	Flexion	6	(15)		6	(15)		6	(15)		4	(10)		2	(5)	
	Extension	15	(37)		15	(37)		15	(37)		15	(37)		7	(17)	
	Abduction*	25	(62)		25	(62)		25	(62)		15	(27)		10	(25)	
Knee	Flexion	10	(25)		10	(25)		10	(25)		7	(17)		5	(12)	
	Extension	10	(25)		10	(25)		10	(25)		7	(17)		5	(12)	
Ankle	Flexion (plantar flexion)	15	(37)	[53]	15	(37)	[53]	15	(37)	[53]	10	(25)	[35]	7	(17)	[24]
	Extension (dorsiflexion)	10	(25)	[35]	10	(25)	[35]	10	(25)	[35]	10	(25)	[35]	5	(12)	[17]
	Inversion	5	(12)	[17]	5	(12)	[17]	5	(12)	[17]	5	(12)	[17]	2	(5)	[7]
	Eversion	5	(12)	[17]	5	(12)	[17]	5	(12)	[17]	5	(12)	[17]	2	(5)	[7]
Great toe	Extension	3	(7)	[10]	3	(7)	[10]	3	(7)	[10]	3	(7)	[10]	1	(2)	[3]
	Flexion			[17]		(12)	[17]	5	(12)	[17]	5	(12)	[17]	2	(5)	[7]

* Hip adduction weakness is evaluated as an obturator nerve impairment (see Table 17-37).

Table 17-7 Criteria for Grades of Muscle Function of the Lower Extremity

Grade	Description of Muscle Function
5	Active movement against gravity with full resistance
4	Active movement against gravity with some resistance
3	Active movement against gravity only, without resistance
2	Active movement with gravity eliminated
1	Slight contraction and no movement
0	No contraction

EXAMPLE #2

- **THE PARTIES SUBMITTED A STIPULATED AWARD TO THE WCJ WITH A 10% PERMANENT DISABILITY.**
- **THE WCJ SENT THE CASE TO A RATER WHO FELT THAT THE ATROPHY METHOD THAT RATES 10% PD IS MORE FAIR THAN THE DBE METHOD WHICH RATED 5% PD, DESPITE THE PHYSICIAN'S STATEMENT THAT THE DBE METHOD IS "FAIR."**
- **THE PHYSICIAN, THOUGH EXPRESSING CONCERN ABOUT POST-TRAUMATIC ARTHRITIS, DID NOT TEST THE APPLICANT FOR IT BASED ON TABLE 17-31.**

Table 17-31 Arthritis Impairments Based on Roentgenographically Determined Cartilage Intervals

	Whole Person (Lower Extremity) [Foot] Impairment (%)			
	Cartilage Interval			
Joint	**3 mm**	**2 mm**	**1 mm**	**0 mm**
Sacroiliac (3 mm)*	—	1 (2)	3 (7)	3 (7)
Hip (4 mm)	3 (7)	8 (20)	10 (25)	20 (50)
Knee (4 mm)	3 (7)	8 (20)	10 (25)	20 (50)
Patellofemoral†	—	4 (10)	6 (15)	8 (20)
Ankle (4 mm)	2 (5) [7]	6 (15) [21]	8 (20) [28]	12 (30) [43]
Subtalar (3 mm)	—	2 (5) [7]	6 (15) [21]	10 (25) [35]
Talonavicular (2-3 mm)	—	—	4 (10) [14]	8 (20) [28]
Calcaneocuboid	—	—	4 (10) [14]	8 (20) [28]
First metatarsophalangeal	—	—	2 (5) [7]	5 (12) [17]
Other metatarsophalangeal	—	—	1 (2) [3]	3 (7) [10]

* Normal cartilage intervals are given in parentheses.

† In an individual with a history of direct trauma, a complaint of patellofemoral pain, and crepitation on physical examination. but without joint space narrowing on x-rays, a 2% whole person or 5% lower extremity impairment is given.

EXAMPLE #2

- **NOTICE THAT THE PATELLOFEMORAL JOINT CAN RATE 2% WPI IF THERE IS PAIN AND CREPITATION ON EXAMINATION BUT NO LOSS OF CARTILAGE.**
- **THIS WOULD COMBINE WITH THE DBE RATING BUT NOT WITH THE ATROPHY RATING.**
- **AN APPLICANT'S ATTORNEY WOULD HAVE ASKED FOR AN AME OR PQME IN THIS CASE WITH A THOROUGH REVIEW OF THE MATTER WITH THE CLIENT BUT THE REPORT IS SUBSTANTIAL EVIDENCE AND AMA COMPLIANT.**

EXAMPLE #2

- **THIS CASE DEMONSTRATES HOW A WCJ CAN RELY ON A DEU RATER TO SEE WHICH METHOD OF RATING A LOWER EXTREMITY CASE CAN BE USED TO ACCEPT A SETTLEMENT AS REASONABLE.**
- **THIS IS A CONSERVATIVE MEDICAL REPORT BUT THE RATER WAS ABLE TO FERRET OUT THE ATROPHY METHOD AND FAVOR IT OVER THE DBE METHOD ADOPTED BY THE PHYSICIAN.**
- **THE WCJ COULD HAVE SENT THIS CASE OUT FOR A PQME OR TO A KNEE SPECIALIST FOR A FULL EVALUATION IF HE OR SHE WAS IN DOUBT ABOUT THE PHYSICIAN'S OR RATER'S CONCLUSIONS.**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THANK YOU FOR YOUR ATTENTION!

ROBERT G. RASSP, ESQ.

Author, “Lawyer’s Guide to the AMA *Guides* and California Workers’ Compensation”

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